

Managing Up:

Management Education as a Ladder to Mobility



By Stuart Andreason, Anne Trumbore, Ashley Williams, and Matt Sigelman

Introduction

“Learning throughout life is essential for success, and one of the greatest gifts a person can receive.”

— **Frank M. Sands Sr.**

The **Sands Institute for Lifelong Learning at the University of Virginia Darden School of Business**, made possible by a visionary gift from Sands Capital Founder, the late Frank M. Sands Sr. (MBA '63), seeks to position the Darden School as a preeminent institution globally in providing transformational lifelong learning experiences for working professionals and executives worldwide at all stages of their careers and from any background or circumstances.

In pursuit of this vision, The Sands Institute has developed the first in a series of research projects to identify and address critical challenges at the intersection of the workplace, management education and society. This first paper, “Managing Up,” written in partnership with The Burning Glass Institute, provides insights on a conundrum: Over 60% of today’s workforce does not have a college degree, yet bachelor’s degrees are often used as a proxy qualification for management. How can universities and companies support educational pathways to managerial roles for these highly talented individuals in the workforce? First-time managerial roles provide an important conduit to economic mobility for individuals and to talent management stability for organizations. The resulting research confirms that in the increasingly knowledge-based American economy, those with a bachelor’s degree are more likely to improve their relative economic position than those without one. Generative AI and other technological advancements could only deepen this divide in the workplace of tomorrow, creating new challenges for business and society.

The research also points to the talent gap companies are facing, particularly at the manager role. The inability to build resilient pipelines for future talent needs is a core challenge facing organizations today. Within this landscape, the research explores possible avenues of upward mobility for talented workers without a degree. An analysis of millions of career transitions reveals that a key inflection point in a worker’s career — and often a path to higher earnings and opportunities — is the transition into a first-time management role. These abundant roles exist in most every field and are in demand. Importantly, the skills required of first-time managers, such as communications, data analysis, operations and leadership, can be taught and learned.

These findings both empower individuals to acquire the skills necessary for success as managers and underscore the acute need for accessible and impactful management and leadership education. Universities, companies, and policy makers alike can play a role in building the ‘ladder to mobility’ through the capability and skill building so critical for business and society.

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Foreword

By Ashley Williams and Matt Sigelman

The nature of work is changing, and the pace of change is accelerating. As Generative AI and other new technologies are adopted across the economy, continuous learning is vital to help workers adapt. Lifelong learning is an imperative for a worker's economic stability and for their economic mobility.

The Sands Institute for Lifelong Learning at the University of Virginia Darden School of Business has partnered with the Burning Glass Institute to conduct research and develop evidence-backed insights that can support business, university and policy leaders in addressing these workforce learning opportunities.

The research that follows, the first of a series of research the Sands Institute for Lifelong Learning is pursuing, aims to identify new avenues to increase economic mobility for workers with or without a bachelor's degree through skills-based education from universities. We analyzed millions of career transitions to identify the most beneficial educational and career pathways for adult and working learners.

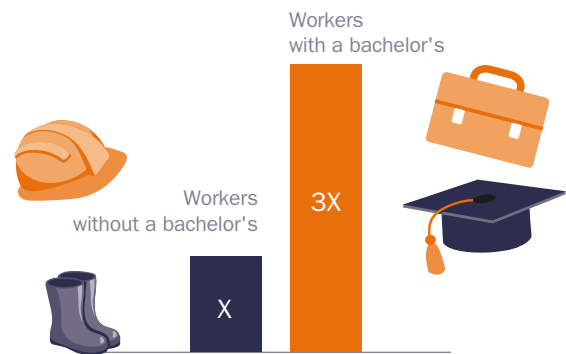
We learned that the transition into a first-time management role is a major inflection point for a worker's career. These roles are widespread; first-time managers exist in every field and — just as importantly — the skills for success of a first-time manager role can be taught. They are many of the same skills taught to students at business schools across the country: data analysis, communications, business operations and leadership.

The research also points to the talent gap companies are facing, particularly at the manager role. The inability to build resilient pipelines for future talent needs is a core challenge facing organizations today. Yet many workers who could be high performers in these roles have difficulty accessing them because of limited managerial training pathways, or pathways that are typically reserved for workers with college degrees. We estimate there are 10.1 million hidden candidates for first-time manager roles, who could make the transition by acquiring skills necessary for success but are currently prevented from pursuing these roles.

These findings both empower individuals to acquire the skills necessary for success as managers and underscore the acute need for accessible and impactful management and leadership education. Universities, companies, and policy makers alike can play a role in building the 'ladder to mobility' through the capability and skill building so critical for business and society.

Executive Summary

- Economic mobility is in decline in the U.S. even as educational attainment has risen in part because opportunities for advancement are blocked for those without a degree.
- For many workers, the gateway to economic mobility is stepping into management. Yet today, by age 40, those with a bachelor's are three times as likely as those without one to be working in management. In fact, early and mid-career management positions typically require one level of degree attainment higher than the workforce they manage.
- Employer demand data suggest that emerging leaders need to gain additional education to move into management positions, and acquiring these skills might occur through channels other than a full degree program.** Our analysis of millions of observed transitions and skills pathways into leadership suggests that the **technical skills of leadership** often comprise the last mile between skilled workers and leaders. This finding suggests that **universities that offer business education in new formats can play a significant role in promoting mobility by providing meaningful certifications in leadership and management outside of the degree track.**
- We estimate there are 10.1 million hidden candidates for first-time manager roles who could make the transition by acquiring skills necessary for success. Our analysis suggests that more than one in 20 of all American workers could immediately benefit, with an estimated average earnings increase of \$20,000 per year.
- Universities — and business schools in particular— have established curricula for teaching these skills. There is considerable opportunity for these institutions to leverage their existing expertise in teaching leadership and management to launch new programs to serve a wider community of learners.



Those with a bachelor's are **three times as likely** to be working in management (by age 40).



HIDDEN CANDIDATES

for **first-time manager roles**, who could make the transition by acquiring skills necessary for success.

- Universities play another role here as well. Accredited institutions have averaged nearly one million certificate conferrals every year since the 2010-2011 school year. In 2021, private, not-for-profit institutions and public universities conferred 73 percent of all certificates — up from 54 percent in 2011. Respected universities and business schools have the brand recognition and expertise to create alternative credentials that are trusted by employers.

Respected universities and business schools have the **brand recognition** to create alternative credentials that are trusted by employers.



- Employers searching for management talent can partner with universities to offer employees the opportunity to develop the skills they need to take up managerial positions that provide a foundation for economic mobility.
- Managerial roles are a critical pathway to economic mobility and stability — becoming a first-time manager means greater lifetime wage growth and, in almost all cases, an immediate and meaningful bump in pay. Effective lifelong learning educational models can prepare working learners for first-time manager roles quickly and efficiently. They may also provide, in the future, a different pathway to a degree.

Introduction

Economic mobility is core to the American ethos – offering the promise that hard work will be rewarded with opportunity and status. Yet, in recent decades, as the American economy has become increasingly knowledge-based, mobility has been in decline. Today, for generations that have reached adulthood, the likelihood of surpassing one's parents' income has dropped to below 50 percent (Chetty et al. 2017) from over 90 percent for Baby Boomers. Declining mobility is particularly acute among lower income workers and families. Workers who start out in the bottom income quintiles are less likely to improve their relative economic position than peers in other countries or at other points in American history.

As mobility rates have dropped, formal educational attainment has risen. With significant growth in knowledge work, educational credentials have become increasingly important in the labor market, and workers and learners have pursued them. Twenty-five years ago, 30 percent of workers had earned a bachelor's degree. By 2020, that figure had changed dramatically; today 52 percent of all 25-34 year old workers had earned a tertiary degree (Newburger and Curry, 2000; OECD and NCES Education at a Glance, 2021). **That's good news for those who acquire a degree. The Burning Glass Institute research indicates an average 25 percent lifetime wage premium for graduates.** But for those who don't earn a degree, prospects for mobility are far more limited.

One of the bottlenecks workers without degrees face is transitioning from middle skill jobs into management. **Traditionally, employers have used a college or graduate degree as a proxy for “promotability” into management positions. However, leadership and management skills can be taught, and do not have to be restricted to those with postsecondary degrees.** New leadership development and educational models can open the doors to opportunity for new cohorts of workers across

the country and in many different fields. In addition, new assessment strategies are needed to verify the skills held by workers without degrees and to validate the new capabilities they accrue over time.

Managerial roles are a critical pathway to economic mobility and stability — becoming a first-time manager means greater lifetime wage growth and in almost all cases, an immediate and meaningful increase in pay. Yet, many workers find themselves on the outside of this pathway, despite growing educational attainment overall. Our analysis suggests that effective lifelong learning educational models can prepare working learners for first-time manager roles and could benefit millions of workers.

Mid-career and early leadership positions in an occupational field often require one level of educational credential above what is expected for the role. In occupations usually staffed by those with an associate's degree, leadership roles are filled by bachelor's degree holders. For example, lodging managers typically hold an associate's degree, while the staff they manage typically have a high school diploma. This trend holds true up and down the spectrum of jobs and levels of educational credentialing — and it creates a bottleneck for workers, especially those who have accrued skills on the job or through non-degreed training. Our research shows that in advertising for mid-career roles, or even for more senior positions within the same occupation, employers are more likely to require degrees.

This dynamic, recently dubbed “the Paper Ceiling,” highlights the plight of the 70+ million workers in America who are shut out of traditional leadership positions at work. The numbers are stark. By age 40, those with a bachelor's degree are three times as likely as those with just a high school diploma to be working in management.

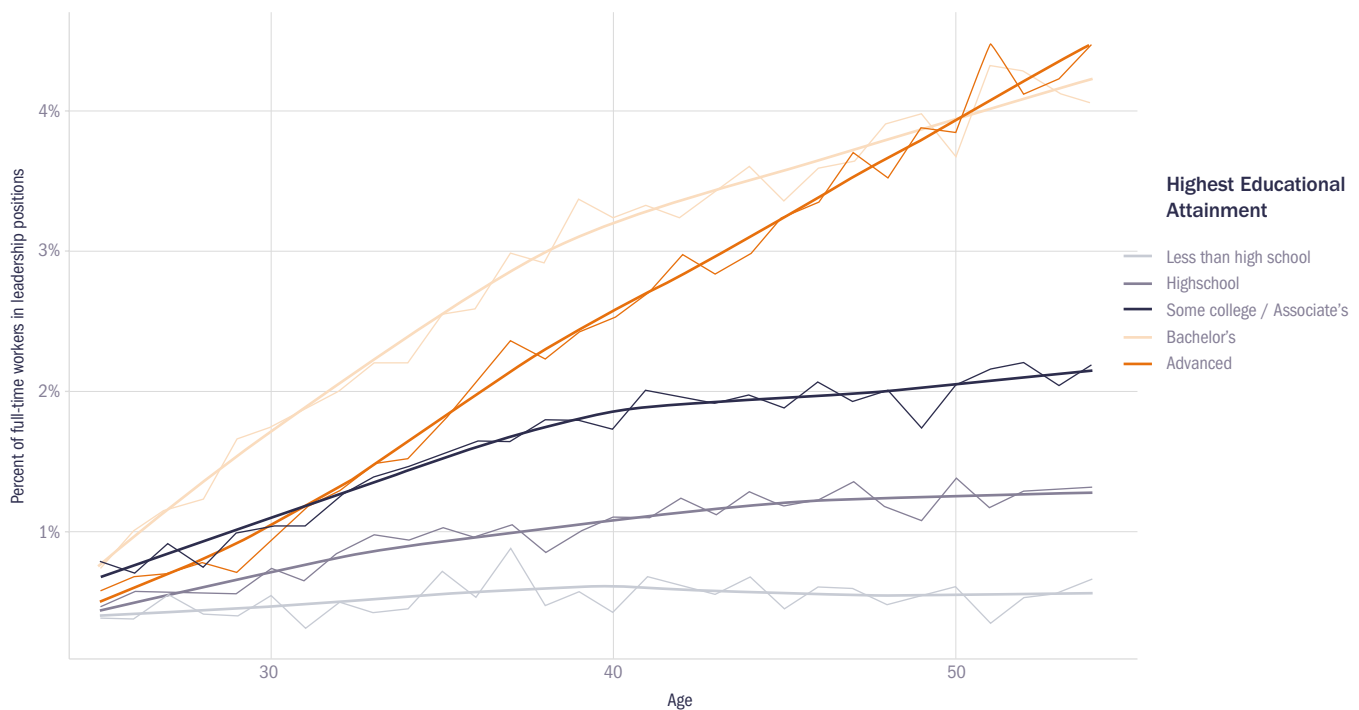


Figure 1 – Current Educational Level by Age of Workers in Management Roles. Source: The Burning Glass Institute analysis

The Golden Gateway: Management Roles and the Path to the Middle Class

For workers without college degrees, stepping into management is a key inflection point in their economic mobility. In no small part, that's because management roles pay more. For example, a human resources specialist sees her salary grow by \$27,000 upon moving into a human resources manager position — a life-changing difference. But the move into management also accelerates the pace of continued earnings growth over time. By moving into management, a worker can expect onward earnings to rise 1.5 percent faster every year than non-managers over the subsequent five years.

Management roles lead to other management roles. Our analysis finds that first-time manager roles tend to have longer tenure and higher likelihood of promotions within firm. As reflected in Figure 2 below, managers are 30 percent more likely than others to find their next job within their existing organization.

These roles offer strong opportunity for another reason as well: they are in high and rapidly growing demand.

The Sands Institute for Lifelong Learning at UVA's Darden School of Business, working with researchers from the Burning Glass Institute, identified a set of 12 first-time management positions expected to grow over the next decade. The Bureau of Labor Statistics estimates that these 12 first-time manager roles will grow by over 560,000 positions over the next 10 years. **From 2020 to 2022, postings for these 12 roles have grown by 54 percent — far outpacing overall labor market demand growth.**

As seen in Figure 3, competition for these roles is already fierce, creating a boon for workers. Some first-time manager roles have seen salaries increase more than 20 percent just over the past year. Between 2021 and 2022 alone, salaries for Industrial Production Managers grew by \$19,050 as employers struggle to fill increasing numbers of vacancies from a stagnant talent pool.

Figure 2 – Likelihood of Transitioning Internally vs. Externally for Managers vs. Others

Source: The Burning Glass Institute analysis

First-Time Managers Stay with the same firm longer, even when they change roles

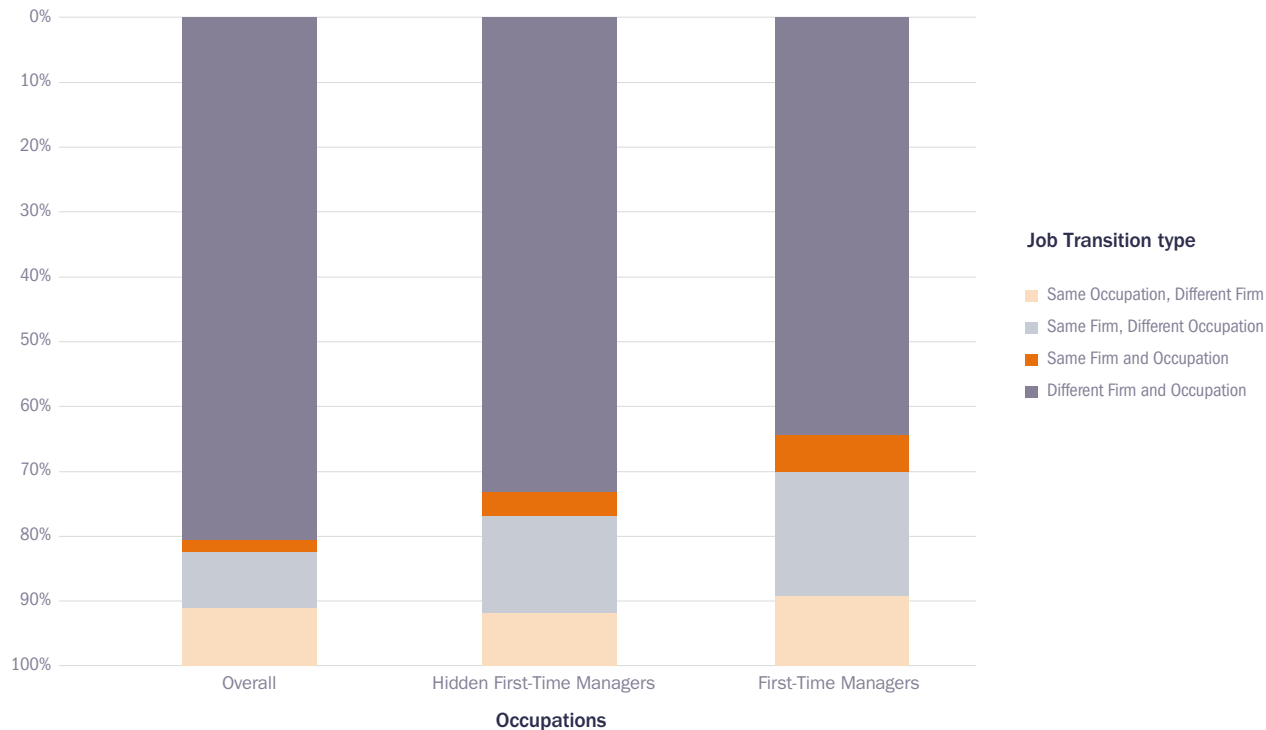


Figure 3 – Advertised salaries for first-time managers have increased, reflecting efforts by employers to attract talent

Source: Burning Glass analysis of Lightcast job postings data

Occupation	Year over year median salary change 2021-2022	Year over year median salary change 2021-2022 (%)
Marketing Managers	\$ 11,850	9.6%
Industrial Production Managers	\$ 19,050	22.1%
Information Technology Project Managers	\$ 10,228	8.4%
Training and Development Managers	\$ 3,398	5.2%
Sales Managers	\$ 8,132	8.2%
Medical and Health Services Managers	\$ 413	0.5%
Human Resources Managers	\$ 5,000	5.1%
Compliance Managers	\$ 18,242	18.1%
Supply Chain Managers	\$ 7,275	4.9%
Financial Managers	\$ 12,143	12.1%
Project Management Specialists	\$ 9,600	9.7%
Construction Managers	\$ 7,078	7.7%

An Imperative for Employers

The “Paper Ceiling” affects employers as much as it does workers. In recent years, shortages of talent have accelerated wage growth even as productivity has stagnated — a challenging combination.

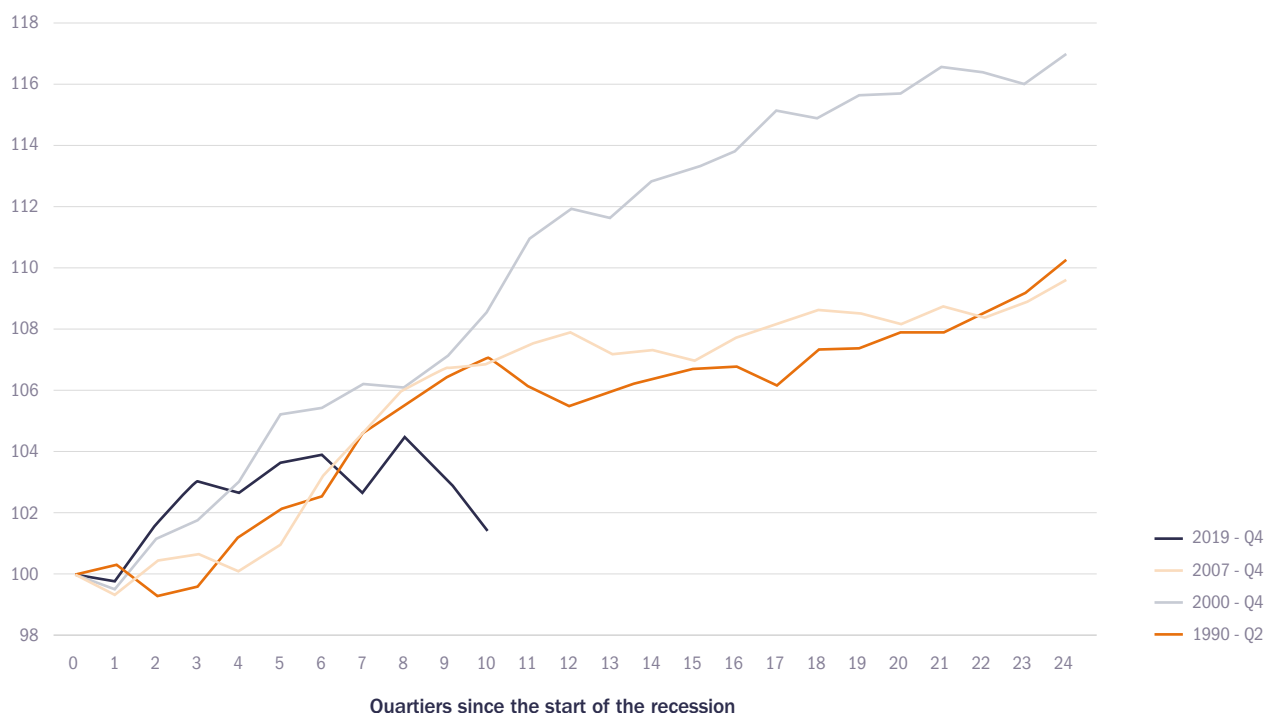
In what employers perceive as a high stakes, fast-moving job market, firms are bidding for limited amounts of talent. For many roles, talent shortages are projected to increase as the labor force experiences growing numbers of retirements through the end of the decade. For the first time, the overall size of the U.S. labor force declined in 2022. And as the labor force shrinks, productivity has stagnated. These trends — limited skilled labor and increasing costs — can impact other business functional areas. A recent survey of businesses by the Federal Reserve System found that many firms shifted capital expenditures to technology to reduce labor dependence because they could not find the skilled labor or managers to implement new expansions. ([Federal Reserve Small Business Credit Survey 2022, 2018](#)).

The combination of stagnant productivity and a shrinking workforce has created very real challenges for employers. Low rates of employee retention and engagement among frontline and technical workers limit output further. Increasingly, companies are turning to investments in education as a strategy for longer employee retention and engagement. “At Bank of America, our commitment to hiring non-degreed talent is one way we continue to build a diverse and inclusive workforce as we deliver a Great Place to Work. Aligned with this, we’re focused on ensuring that teammates have the education, training and professional development opportunities they need to advance a long and successful career at the company,” says April Hicks, People Strategy & Enablement and Global Talent Acquisition Executive at Bank of America. Managerial roles can be particularly difficult to fill because of the level of experience and specialized knowledge required – and, correspondingly, because of the lack of widely accepted assessments for validating key skills.

Figure 4 – “A Challenging Combination – Stagnating Productivity and Accelerating Wage Growth”

Source: Bureau of Labor Statistics

Labor productivity trajectory in the last four recessions
Last quarter pre-recession = 100



Unlocking Hidden Talent: Moving Beyond the Zero-Sum Game

Such challenges may be somewhat avoidable. Employers operate in what they consider to be a zero-sum game market, in which there is a limited amount of talent that matches their specific requirements.

But many more workers are hidden in plain sight, possessing many key skills and able to be activated through targeted training in the leadership and management capabilities required to step up.

FIGURE 5 – The Hidden First-Time Managers

Source: Burning Glass analysis of Lightcast job postings data



There are over 3.5 million highly accessible, high-quality first-time manager roles available across the country. While many technical or frontline workers will need to acquire key leadership skills to step up into these roles – skills like initiative, business operations, communications, and data analytics – many workers already possess or could be easily trained in required business line and subject matter expertise.

In fact, over 10 million current workers in skilled technical positions could become first-time managers through managerial training. We conducted an analysis of millions of job postings and career histories to identify transitions that could be affected through managerial training. On that basis, we identified pools of feeder roles for management. These represent new and expanded pathways, that offer broader access than the gated path of a bachelor's degree. This would be a

major step forward for economic mobility, creating new routes up for 10 million workers – nearly one-third of all of workers who have attained some college credit but not yet earned their degree.

Employer demand data suggest that emerging leaders need to gain additional education, but acquiring these skills doesn't take a full degree program. Our analysis of millions of observed transitions and skills pathways into leadership from the frontline position suggests that **the technical skills of leadership** often comprise the last mile between skilled workers and leaders. This finding suggests that **universities which offer business education in new formats can play a significant role in promoting mobility by providing meaningful certifications in leadership and management outside of the degree track.**

Managerial Skills and Leadership Can Be Taught

By reaching towards specific skills-based pathways and credentials into management, employers can start to solve significant hiring and retention challenges. By developing key capabilities for leading business operations, information technology, human resources, finance and supply chain management functions, **companies could put millions of additional workers on a path into management and economic mobility. By building managerial talent from the ranks, employers would gain access to significant repositories of underleveraged talent. Meanwhile, millions of workers would have access to a step up that was once reserved for college graduates.** It's an instance of mutual benefit, with workers accessing many new pathways into leadership and employers tapping new pipelines.

Many managerial skills are common across steps into first time management. **Through our analysis of skill-demand data, we identified a set of core managerial skills required of every first-time manager, including data analysis, communication, business operations, and initiative and leadership.** Within each of these

core learning areas, a first-time manager may also need skills that are specific to the context of a job. For example, the analytical skills that a finance manager needs to develop are more aligned to quantitative forecasting and statistical analysis; those required of a marketing manager are more likely to revolve around visualizing data. In the case of both of these roles, the most critical skill is to become conversant in data analytics and able to read, discuss and lead utilizing analytical insights.

As an example, finance managers work in every industry, overseeing key functions, tracking firm performance, and developing and monitoring company budgets as well. Yet finance managers are a first-time manager role that can be filled with skilled technical workers, provided they receive managerial training. Personal financial advisors can become finance managers when they learn greater analytical skills in financial reporting and budget management as well as forecasting and operational skills like internal control processes and auditing.

Business Operations	Initiative and Leadership
1. Operational excellence 2. Resource planning and management 3. Financial and cost management 4. Administrative standards, reporting and management	1. Team administration and leadership 2. Being a leader 3. Developing team standards and personnel management
Communication	Data Analysis
1. Communicating Complex Information 2. Managerial and Internal Communications 3. Building an Executive Presence 4. Communicating to Influence	1. Utilizing Data to Build Strategies 2. Mining Insights from Data 3. Reporting and Visualizing Data

Figure 6 – Skills Which Employers Commonly Demand for First-Time Manager Roles, by Function

Source: Burning Glass Institute analysis of Lightcast job posting data

Between the current workforce and projected growth, we expect demand for approximately 19,000 finance managers in Virginia alone. While firms could compete within the existing pool, they could also add 20,000 new potential candidates by investing in managerial training programs.

The benefits to managerial skill-based pathway building are many. First, these pathways can solve significant hiring challenges for an array of frontline

managerial roles across sectors. **Even as these first-time managerial roles are challenging to fill, employees who step up into them prove highly engaged and stay 33 percent longer compared to feeder roles or individual contributor positions.** Second, they accrue transformative benefits to workers in terms of both meaningful increase in pay and significantly greater economic mobility, with first time managers more likely to pursue advancement within firm.

Teaching Managerial Skills

Business schools, with their breadth of insights, research, and industry relationships, have a particularly large role to play in unlocking these pathways. Their case-based teaching methods in essence bring experiential simulation to the development of both hard and soft leadership and organizational management skills. Yet, while business schools are an ideal venue for expanding access to managerial education, traditional residential learning models are not always well-suited for skilled frontline workers. What's more, traditional models are unlikely to scale to the imperative for this type of training across the labor market.

The Sands Institute is excited to support this mission by providing educational opportunities in leadership and management so that workers can advance in their careers by moving into management roles. Traditionally, leadership training has focused on those who have a bachelor's degree or above. We are calling on universities and corporations to provide evidence-based leadership training that better meet the needs of many pursuing first time manager roles and positions them for upward mobility.

Togther, we can create an accessible, credible option for creating the pathway to management. Critical management skills can be developed through short-form curricula, and delivered as affordable, flexible, and blended digital offerings. Workers already utilize alternative credentials to pursue promotions and new opportunities, but often access programs without significant connections to the labor market. Improved programs aligned to employer needs and labor market demand, including ones that create

access to managerial opportunities could significantly improve outcomes for workers. Such programs would be easily adaptable to specific business needs and readily customizable as well. Furthermore, they could provide a steppingstone toward a future degree over time. Despite challenges associated with building credential and certificate programs, they are a crucial component of lifelong learning and there is significant demand for them among working learners – and a central component of America's next managers.

At the Sands Institute for Lifelong Learning at the UVA Darden School, we believe strongly in extending access to education that makes a difference in the lives of working adults. As such we are pursuing a targeted set of offerings that build on a longstanding legacy of partnership between the University and industry in developing executive education and lifelong learning programs that provide quality education to learners at work.

We are starting by developing a core curriculum that provides the base leadership and management training that supports manager development in specific industries. We will overlay this core curriculum with modules for specific industries and functions. The result will be the building blocks for certification for first time managers.

Just in the 12 high-growth first-time manger roles we identified, if 20 percent of openings are filled in this way, \$10 billion of economic value would accrue to those workers through annual wage gains—an impact worthy of the Sands Institute's lifelong learning mission.

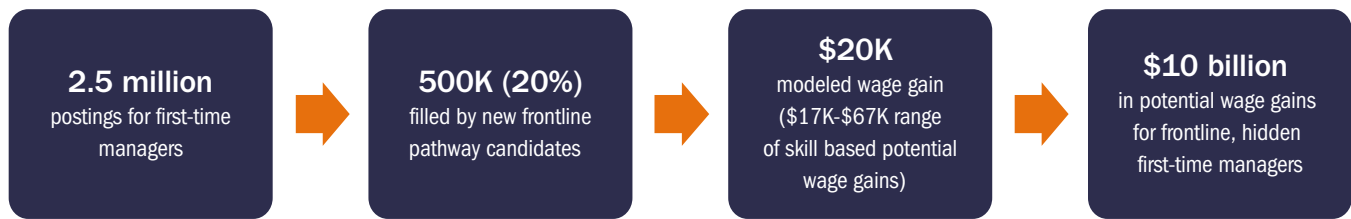


Figure 7 – Potential Wage Gains for America's Hidden Managers

Source: Burning Glass Institute analysis of BLS Occupational Employment and Wage Statistics (OEWS) and Lightcast job postings data

Action Can Unlock Gates

Mobility trends face significant headwinds and challenges, but employers, educational institutions and governments must not let these headwinds deter action. A first step in reducing barriers is ensuring greater access to the range of managerial work and occupations that a skilled technical worker could access. Collectively, we must take the critical next steps to affect wholesale change. Fortunately, many ready opportunities are also large scale.

Significant new opportunities sit behind locked gates that need not remain closed. Our analysis suggests that there are meaningful populations of workers who could readily advance into new first-time manager roles through targeted leadership and management training. More than one in twenty of all American workers could immediately benefit, with an estimated average earnings boost of \$20,000.

Leadership and management training from credible institutions targeted to high-value roles is vital for providing mobility and economic stability for American workers. The projected pace of job change, spurred by automation and AI, makes the development of

leadership and management skills even more critical for workers who may have to shift work activities as a result of **new automation and AI-driven change in work activities**.

Universities are uniquely positioned to take on this challenge, providing shorter-form credible alternatives to degree-based programs and providing learning opportunities to workers looking to transition to managerial roles that are not gated by admission. In so doing, they would expand the reach of their mission to include the many Americans who have not pursued a traditional pathway.

Universities should not go it alone. They should work closely with companies to develop curricula that meet ever-changing business needs in order to make them beneficial to workers and employers alike.

Developing managers can unlock gateways to economic opportunity and enhance pathways to economic opportunity for millions of workers. By rising to this imperative, we can ensure that more members of our society have a chance to rise.

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Stuart Andreason is Executive Director of Programs at the Burning Glass Institute where he leads efforts in research and engagement on workforce innovation, higher education, and economic mobility. Previously, Andreason was the founding director of the Center for Workforce and Economic Opportunity at the Federal Reserve Bank of Atlanta, a first of its kind “think and do” center in the Federal Reserve System.

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Matt Sigelman is President of the Burning Glass Institute. He has dedicated his career to unlocking new avenues for mobility, opportunity, and equity through skills. Matt and his team created the field of real-time labor market data, a breakthrough innovation that has transformed the way that policy makers, researchers, employers, education institutions, and workers understand, plan for, and connect with the world of work.